METHOD, APPARATUS AND ARTICLE OF MANUFACTURE FOR A TRANSFORM MODULE IN A GRAPHICS PROCESSOR

ABSTRACT

A method, apparatus and article of manufacture are provided for a transform system for graphics processing as a computer system or on a single integrated circuit. Included is an input buffer adapted for being coupled to a vertex attribute buffer for receiving vertex data therefrom. A multiplication logic unit has a first input coupled to an output of the input buffer. Also provided is an arithmetic logic unit having a first input coupled to an output of the multiplication logic unit. Coupled to an output of the arithmetic logic unit is an input of a register unit. An inverse logic unit is provided including an input coupled to the output of the arithmetic logic unit or the register unit for performing an inverse or an inverse square root operation. Further included is a conversion module coupled between an output of the inverse logic unit and a second input of the multiplication logic unit. In use, the conversion module serves to convert scalar vertex data to vector vertex data. Memory is coupled to the multiplication logic unit and the arithmetic logic unit. The memory has stored therein a plurality of constants and variables for being used in conjunction with the input buffer, the multiplication logic unit, the arithmetic logic unit, the register unit, the inverse logic unit, and the conversion module for processing the vertex data. Finally, an output converter is coupled to the output of the arithmetic logic unit for being coupled to a lighting module to output the processed vertex data thereto.